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ABSTRACT

A student with a poor school history may differ from his or her classmates not only in academic skills but also in the expectation of future success. Seventh grade students (N=51) identified by teachers as at-risk for school failure because of their previous school performance were compared with an equal number of normal classmates on measures of cognitive, academic, and affective competence as well as on a measure of performance under test-like conditions. The at-risk group was found to be significantly less able, more anxious, less confident and with fewer coping strategies than controls. Approximately 30% of both at-risk and normal group showed depressed performance when they thought they were taking a test. School failure, and even merely the threat of that failure, appear to have a detrimental affect on the subsequent school performance of young adolescents. (Author/NRB)

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At Risk For School Failure

A comparison of the competence and the performance under stress of At-Risk and normal seventh graders.

ABSTRACT:

Fifty-one Grade Seven students identified as at-risk for school failure because of their previous school performance were compared with an equal number of their normal classmates on measures of cognitive, academic and affective competence as well as on a measure of performance under test-like conditions. The at-risk group was found to be significantly less able, more anxious, less confidant and to have fewer coping strategies than controls. Approximately 30% of both at-risk and normal group showed depressed performance when they thought they were taking a test.

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At Risk For School Failure

A comparison of the competence and the performance under stress of At-Risk and normal seventh graders.

Background

Previous attempts to distinguish potentially At-risk members in a population of adolescents
young have highlighted both the rule of organismic vulnerability to stress (Chess, Thomas & Birch, 1960; Thomas & Chess, 1977; Poser, 1976; Hartman, 1977) and the high focus of stress associated with early adolescence in Western culture (Hall, 1904; Hamburg, 1974; Kestenberg, 1967). One common source of stress in young adolescents that has not been well investigated is the school experience of the unsuccessful student. Prolonged failure has been demonstrated to depress subsequent performance (Brickman P., Linsenmeier J., McCareins A., 1976; Dweck & Repucci, 1973; Dweck, 1975) and failure-expectant students use less effective problem-solving skills (Diener and Dweck, 1978). It seems reasonable to expect that a student with a poor school history would differ from his or her classmates not only in the level of academic skill he or she brings to school learning tasks but also in the expectation of future success.

This is a report of an investigation of the profile of the young adolescent who is at risk for school failure because of a history of depressed academic, cognitive or affective functioning in school. Two hypotheses are tested: the first, that the student with a history of school failure will be not only less academically able, but also more anxious, will feel less in control of his or her own performance in school, respond with fewer coping strategies, have fewer adaptive behavioral options, and have lower self concepts than his or her normal classmates.

The second hypotheses tested is that this at-risk student will be more vulnerable to school-related stress than his or her normal classmates and respond to stressful situations with depressed performance.

Part I - A comparison of competence

Method

All grade six teachers in one school commission (N=34) were asked to select any student within his or her class whom they deemed at risk for failure to cope with grade seven the following year. The reliability of these teachers' judgements had been established in a similar grade six survey the previous year (Stevens & Pihl, 1980). Approximately twelve percent of the 1200 grade six students were referred as at-risk in this survey.

Subjects

The experimental sample for this study was drawn from amongst the one-hundred-and-twenty-six at-risk students who entered grade seven the following year in one of the commission's three high schools. Excluded from this sample were any students with major physical or organic deficits, those with I.Q.'s below 75, those referred only because of an inability to speak English, and those who had repeated a grade. This produced a sample of 51 at-risk students, 35 boys and 16 girls.

A normal control group of fifty-one students, matched for sex, was selected at random from amongst the remaining grade seven students in this high school.

Procedure

Each of the 102 students was assessed individually by one of three research assistants trained for this study. The following measures were used:

Measures

1. Quick Test (Ammons, R. & Ammons, C., 1962) a test of intelligence based on vocabulary definition.
2. Test Anxiety Scale for Children (Sarason, Davidson, Lighthall, White & Ruebush, 1960), a measure of trait anxiety.
3. Poor Self Evaluation Scale (Feld & Lewis, 1969) a sub-scale of the Test Anxiety Scale for Children which measures self-related comparison to peers.
4. Intellectual Achievement Responsibility Scale (Crandall, Katkovsky and Crandall, 1965), a measure of attribution of control over school success or failure.

5. Effort versus Ability Attribution Scale (Dweck, 1975) a measure of attribution of control.
6. Internal - External Control Test (Rotter, 1966) a measure of locus of control Means - Ends Problem Solving Test (Spivack, Platt & Shure, 1975) a measure of social problem-solving ability.

Two measures of coping ability were designed for and used in this study:

7. What would You Probably Do, a measure of self-rated ability to cope with common stressful situations in school.
8. Teachers Check List, a teacher's version of What Would You Probably Do, which was completed for each of the one-hundred-and-two students in the sample by the core teachers.
9. Grades in language Arts and mathematics and final grades were also obtained for each student.

Results - Part I

Since this is a two part study, in the interest of clarity, differences related to the main effect for group will be reported first. Other results, since they relate to both parts of the study are reported at the end of Part II.

Data was first analyzed by means of analysis of variance, SPSS program 8031, to compare the performance of the two groups on the twenty-one measures of competence. Results showed that the at-risk students differed very significantly from their normal classmates in age, $F(1,101)=16.03$; ($p<.001$), intelligence ($F(1,101)=32.97$, ($p<.001$), anxiety $F(1,101)=20.23$, ($p<.001$), self concept $F(1,101)=9.78$, ($p<.003$), grades $F(1,101)=56.56$, ($p<.001$), and coping ability, both teacher-rated, $F(1,101)=25.7$ and 20.78, ($p<.001$) and self-rated, $F(1,101)=11.47$, ($p<.001$).

To ensure that the heightened anxiety and depressed coping ability were not merely reflecting depressed general competence, additional analyses of variance were performed covarying intelligence, mathematical ability and age. Results of these

additional analyses showed that the at-risk group was still significantly higher in anxiety, $F(1,101)=9.12$; ($p<.004$) and lower in coping ability, $F(1,101)=6.39$, ($p<.01$).

Part II - Performance Under Stress

Method

To assess performance under stress, two equivalent forms of a mathematical test were produced from the Wide Range Achievement Test (Jastak and Jastak, 1965) and given to all grade seven students in this high school in class, by their own teachers. The two tests were administered three days apart. The first was given under relaxed conditions, with low-key instructions and was untimed. The second test, three days later, was presented under conditions designed to elicit maximum test-like vigilence, as closely as possible paralleling those of a normal school examination.

Measures

1. Math Test I yielded a measure of unstressed mathematics performance.
2. Math Test II measured performance under test conditions.

Each student was also asked for:

3. Self Prediction of Performance - both before and after each of the two tests.
4. Each also completed a questionnaire subsequent to the second, stressed, test, asking for an evaluation of which test they felt was more difficult, how much they attributed their performance to ability, how much to effort, and how much they valued performing well.

Results

The effectiveness of the stress manipulation was assessed first. A T-test was performed between the means of the predictions made before and after the unstressed presentation and those made before and after the second, stressed, test. The difference was highly significant, ($T=5.39$, $p<.005$).

Performance of the two groups on each of the two tests was then compared. Contrary to the hypothesized difference in vulnerability between the At-risk and normal students, approximately 30% of each group showed impaired performance under stress, as

measured by a drop of 10% or more on Test II (actual depressed scores averaged 20%).

There were, however, significant differences between the two groups in math ability, $F(1,85)=85.83$ ($p<.001$) and in self-predictions of performance $F(1,85)=38.86$, ($p<.001$).

Differences were also found due to sex. Boys scored higher on the measure of intelligence, $F(1,85)=7.43$; ($p<.008$), made higher self-predictions, $F(1,85)=4.09$ to 8.5, ($p<.04$ to .005), and attributed more of their own performance to effort, $F(1,85)=8.4$, ($p<.005$), than did the girls. However, they also earned lower grades in math, $F(1,85)=2.66$, ($p<.10$). Girls were more anxious, $F(1,85)=4.24$, ($p=.04$).

The test-vulnerable thirty percent of these students also differed from the more resilient group. The test-vulnerable students were both more competent but more anxious. They earned higher grades, $F(1,85)=5.85$, ($p<.02$) and had higher mathematics ability, $F(1,85)=9.18$, ($p<.004$).

Predictably high correlations were found between the academic variables mathematics ability and grades ($r=.59$ to .82, $p<.001$). But less predictable was the significant correlation found between coping ability and academic performance ($r=.26$ to .47 $p<.001$).

A discriminant analysis was performed and yielded a function which included: Σ (+.25 I.Q.) + (.34 Test Anxiety Scale for Children) + (-.27 What Would You Probably Do) + (-.17 Teachers Check List) + (-.27 Language Tests) + (-.26 Mathematics grade)+ (.20 Attribution to Effort) + (+.3 Self Coping Composite) + (-.25 Mathematics ability) + (-.15 anxiety). This function was generated from the scores of the eighty-five students for whom all measures were completed, and then used to sort the entire sample of one-hundred-and-two. The ensuing analysis discriminated between the groups with 94.1% accuracy.

Discussion

The results of this study show striking differences between a group of seventh grade students who had been normally successful in school and a group of their classmates whose school history had included less success and more failure.

The first hypothesis was confirmed for all the cognitive and affective variables measured, except the attribution and locus of control variables, and even some of these were included in the discriminant function generated which discriminated between the groups with almost 95% accuracy.

The second hypothesis was confirmed by the measures of self-rated and teacher-rated coping ability, but disconfirmed by the measures of performance under stress. While at-risk students in this study appear to have and use fewer adaptive coping responses under normal stressful situations encountered in school, when set to be vigilent, nearly one third of both groups, presumably those high in state anxiety, show depressed performance.

School failure, and even the threat of that failure, appear to have a detrimental affect on the subsequent school performance of young adolescents.

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